

SOUTH CAROLINA'S MANUFACTURING GROWTH LEADS THE SOUTHEAST OUT OF RECESSION

A Study of Manufacturing Employment and Investment in South Carolina

David Clayton, Research Director

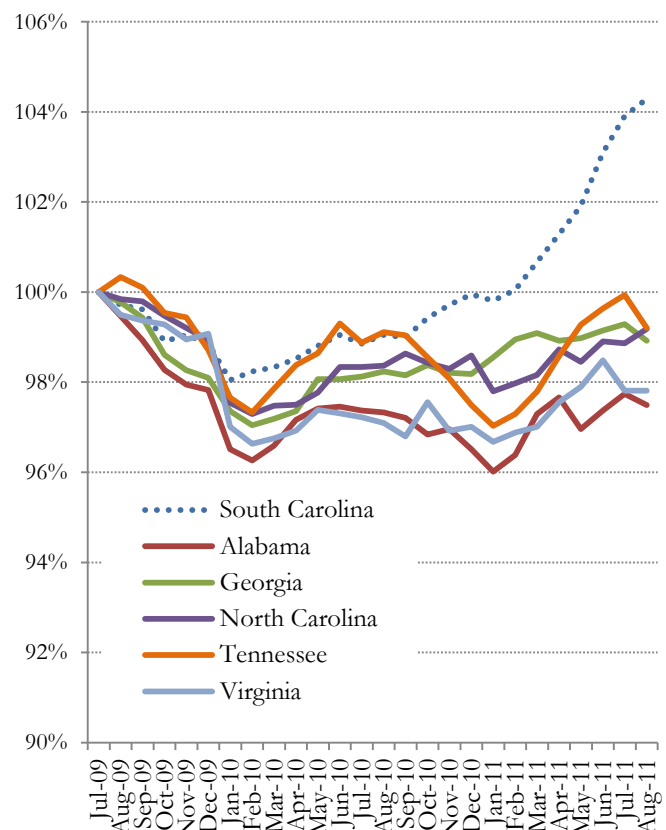
September 2011

Introduction

As the cornerstone of the state's economy, the manufacturing industry employs over 215,000 South Carolinians or approximately 10 percent of the state's total workforce. Products designed and manufactured in the state make up an important part of South Carolina's gross domestic product. For the United States, 11.8 percent of the overall economic output in 2010 was from manufacturing activities, while South Carolina derives 16.4 percent of its output from manufacturing.

Since January 2011, South Carolina has posted job growth in the manufacturing sector for seven consecutive months, adding nearly 10,000 jobs over the course of the year. The numbers, when adjusted for seasonal effects such as plant retooling, show even more remarkable growth, with manufacturing employment gaining for eleven consecutive months. While this rebound from the recession is promising, South Carolina still must recover over 30,000 manufacturing jobs to regain the manufacturing employment losses since the beginning of the 2007-2009 recession. Nevertheless, with the 4.3 percent increase in manufacturing employment since the recession's official end in July, 2009, South Carolina leads the southeast in manufacturing job growth. From July, 2009 to August, 2011, Alabama, Georgia, North Carolina, Tennessee and Virginia have all experienced decreases in manufacturing employment, ranging from -0.8 to -2.5 percent.

**Figure 1: Manufacturing Employment Change
Since End of Recession
July 2009 - August 2011, Not Seasonally Adjusted**



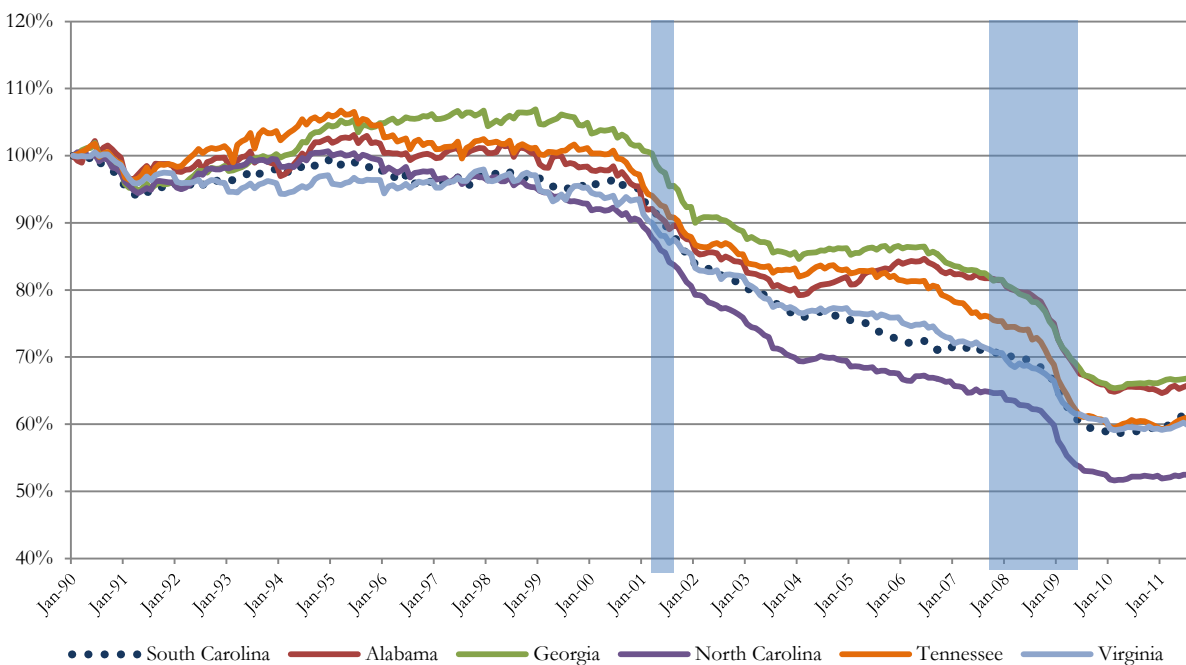
Source: US Department of Labor, Bureau of Labor Statistics,
Current Employment Statistics, September 2011

Thanks to its favorable business climate, skilled and growing workforce, transportation infrastructure, and low-cost power, South Carolina has been a leader in the southeast and nationwide in recruiting new manufacturing plants and expanding its industrial base. The fruits of this industrial recruitment are evident in the increasing manufacturing employment, relative to peer states, and number of open job positions in the manufacturing industry. Nearly all of the open manufacturing postings statewide, during the month of August 2011, are related to industrial recruitment projects facilitated by the South Carolina Department of Commerce.

Manufacturing Employment Trends

Looking at a longer time span, South Carolina's manufacturing industry experienced a steady decrease in employment from early 2000 through the decade brought on by increased pressure from globalization and improvements in the automation and efficiency of manufacturing plants. Across the southeast, employment in manufacturing declined 30 to 50 percent over the last fifteen years. Figure 2 shows the changes in manufacturing employment in selected southeastern states, relative to the level of employment in January of 1990. According to historical data from the US Department of Commerce, Bureau of Economic Analysis, manufacturing employment in South Carolina remained relatively stable, between the levels of 350,000 and 400,000 jobs from 1970 to 2000. Over the last decade, South Carolina has lost roughly 125,000 manufacturing jobs, or approximately 38 percent of the 2000 level. The manufacturing jobs losses over the decade and more recently from the recession were felt across the southeast fairly uniformly; however, the rate of manufacturing employment recovery after the recession in South Carolina has been accelerated relative to its peers.

Figure 2: Manufacturing Employment Change Since 1990
January 1990 - August 2011, Not Seasonally Adjusted, Periods of Recessions Highlighted



Source: US Department of Labor, Bureau of Labor Statistics, Current Employment Statistics, September 2011

Recession and Recovery in South Carolina's Economic Sectors

The employment impact of the recession has affected South Carolina's economic sectors at various times, rates and magnitudes. Likewise, recovery from the recession continues at different rates for each sector. The table below shows South Carolina's employment change by economic sector for the relatively stable period between August 2001 and August 2007, during the recession from August 2007 to August 2009 and the two years since the official end of the recession. During the period of the recession, the construction industry lost the greatest number of jobs and continues to shed employment for the two years since. The financial services and "other services" industries follow a similar pattern. Professional and business services lost many of the gains made during the 2001 to 2007 period, but has since recovered nearly all of the job losses caused by the recession. The healthcare services sector has experienced positive growth during and after the recession. South Carolina's key industries of manufacturing, both durable and non-durable goods, and leisure and hospitality have recovered considerably over the last twelve months.

Table 1: South Carolina's Employment Change by Sector, Pre-, During, and Post-Recession

Industry Sector	2001 - 2007	2007 - 2009	2009 - 2010	2010 - 2011
Natural Resources and Mining	-600	-500	-100	200
Construction	12,500	-41,200	-6,600	-1,300
Manufacturing - Durable Goods	-8,300	-23,700	-900	8,500
Manufacturing - Non-Durable Goods	-51,700	-16,300	-500	2,500
Wholesale Trade	7,900	-6,400	-100	2,400
Retail Trade	12,300	-17,000	-300	800
Transportation Warehousing and Utilities	4,000	-7,300	-700	2,400
Information	-200	-1,600	-1,500	100
Finance	17,000	-5,400	-3,200	-1,200
Professional and Business Services	38,800	-29,200	19,400	6,200
Educational and Health Services	35,300	7,800	3,700	4,300
Leisure and Hospitality	32,200	-9,700	-800	7,500
Other Services	10,300	-3,800	-700	-200
Local Government	17,600	8,400	-2,100	-12,800
State Government	-4,100	-900	-2,200	-1,000
Federal Government	1,100	1,400	3,200	-1,900

Source: US Department of Labor, Bureau of Labor Statistics, Current Employment Statistics, September 2011, Not Seasonally Adjusted. Note, All data is August-to-August of the time periods shown.

Employment in South Carolina's Manufacturing Sub-Sectors

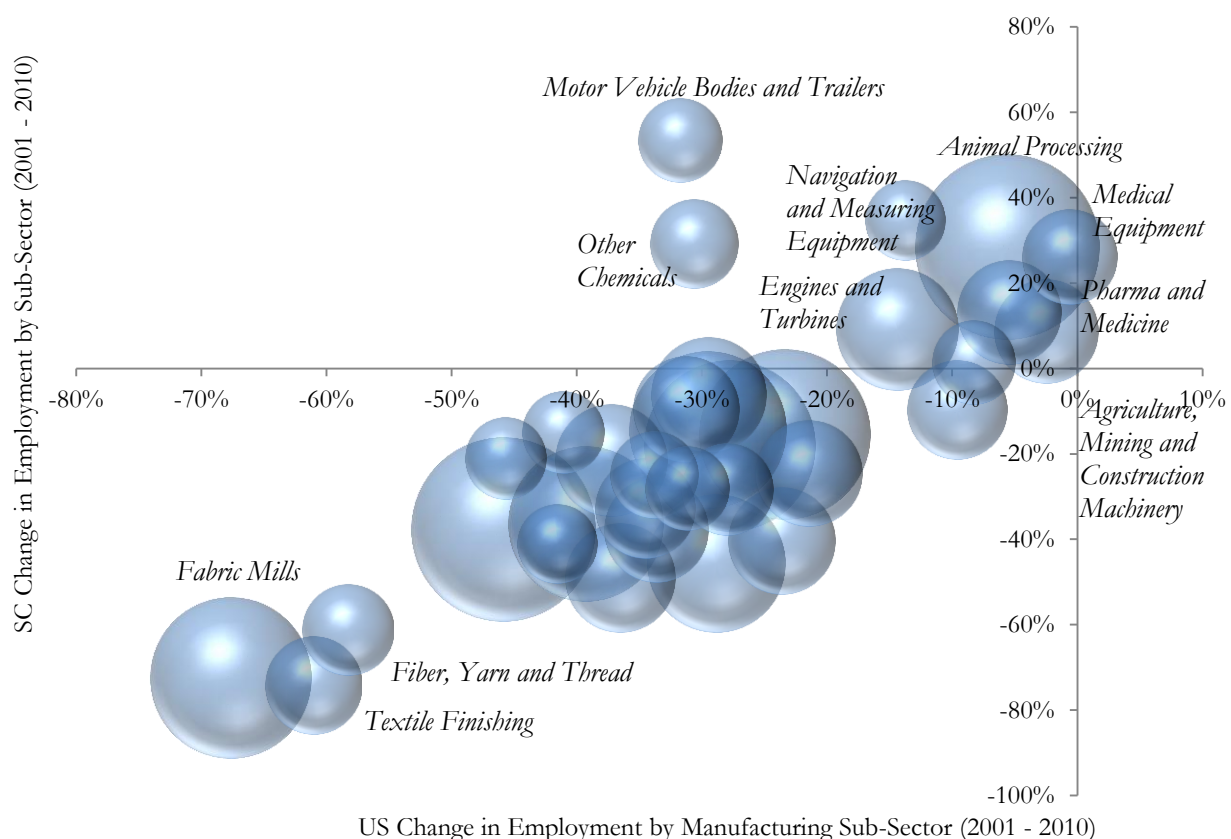
While the manufacturing sector, as a whole, has shed significant numbers of jobs over the last decade, several bright spots appear when examining the sub-sectors of the state's manufacturing economy. The chart below shows the relative size of current employment each manufacturing sub-sector (indicated by bubble size), the employment growth of each sub-subsector in South Carolina (horizontal axis), and the growth of each sub-sector's employment nationwide (vertical axis). The chart shows employment growth and decline for South Carolina and the US by manufacturing sub-sector for the period 2001 to 2010 and includes the thirty largest manufacturing sectors in the state, each employing over 2,000 individuals. Note that some of South Carolina's largest manufacturing sub-sectors are not represented in this chart, as the data is suppressed due to confidentiality requirements. For instance, motor vehicle manufacturing and aircraft manufacturing are not

shown because a single employer makes up a majority of employment in those industries. Considering the recent growth of both BMW and Boeing, each of these industries would fall in an upper quadrant.

Nationwide, every sub-sector of the manufacturing industry experienced a negative employment change over the last decade, ranging from medical equipment manufacturing (-2 percent employment from 2001 to 2010 in the US) to fabric mills (-68 percent employment in the US). Fortunately, this is not the case in South Carolina, where several sub-sectors have experienced significant growth despite the employment decline nationwide. Employment in the manufacture of motor vehicle bodies and trailers grew 54 percent, navigational and measuring equipment grew 35 percent, pharmaceutical products grew 26 percent, animal processing grew 29 percent and engine and turbine manufacturing grew 9 percent. Except for food processing, each of these sub-sectors pay wages significantly above the state average. South Carolina has a distinct competitive advantage in attracting these industries to grow in the state.

The twenty sub-sectors clustered near the middle of the chart experienced decline in South Carolina similar to the nation as a whole. Large sub-sectors in this group include chemicals and rubber product manufacturing, paper and wood product manufacturing, electrical equipment manufacturing, fabricated metal products and machinery manufacturing. Each of these sub-sectors employs over 5,000 individuals in South Carolina, but has declined in employment similarly to the US, losing 10 to 50 percent of employment between 2001 and 2010.

Figure 3: South Carolina and US Employment Change by Manufacturing Sub-Sector, 2001 to 2010



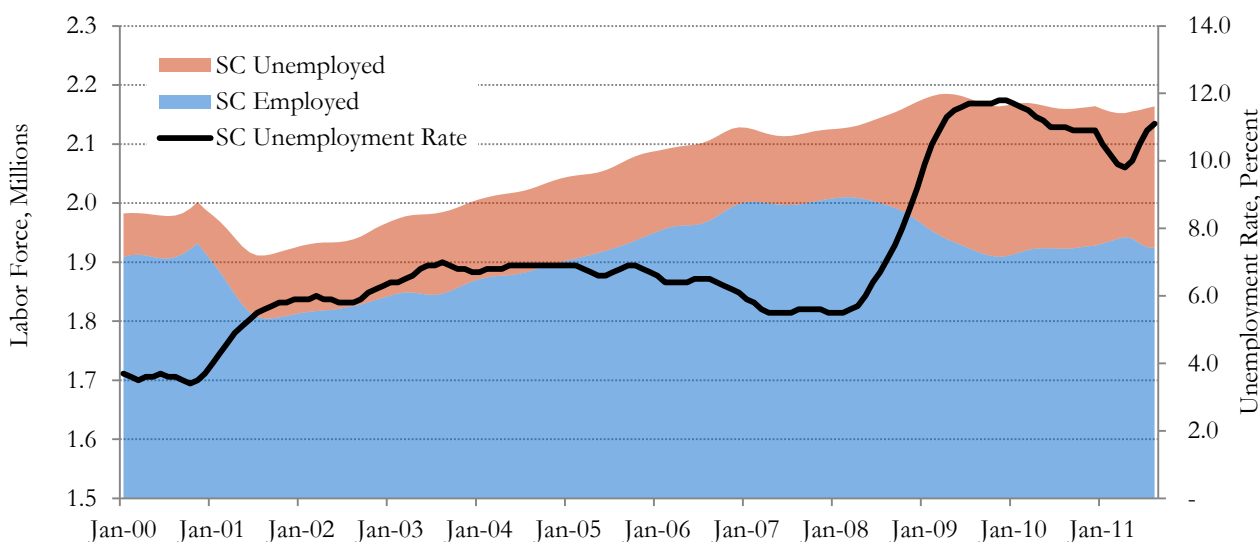
Source: US Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages*, September 2011

An important point to consider when analyzing employment growth or decline in manufacturing is the rise of temporary and contract employment services as a staffing model for many manufacturers. Between 2001 and 2010, employment through staffing firms has increased over 5 percent to 49,500 in South Carolina. These jobs, which make a sizeable portion of production positions in manufacturing facilities, are not reflected in the chart above or in the preceding charts or tables.

Labor Force Growth and Unemployment Trend in South Carolina

Between August 2001 and August 2011, South Carolina's total labor force grew by over 250,000 people or 13.3 percent, making it the eighth fastest growing labor force in the US over the last decade. During the second half of 2009, job losses in the construction, manufacturing and retail trade industries accelerated while the labor force in South Carolina continued to increase, causing the unemployment rate to spike. During much of 2010, the labor force declined slightly while jobs were regained in manufacturing and professional services. The first half of 2011 saw substantial job losses in the government sector and a moderate increase in the labor force, causing the rate to increase again. Despite recent employment gains in certain subsectors, such as manufacturing and business services, the state's unemployment rate has continued to remain high due to continued losses in the construction and government sectors, and occasional increases in the labor force.

Figure 4: South Carolina's Labor Force and Unemployment Trend, January 2000 to August 2011



Source: US Department of Labor, Bureau of Labor Statistics, LAUS Program, September 2011

Manufacturing Investment in South Carolina

Between January, 2010 and August, 2011, over 200 manufacturing firms have committed to invest \$5 billion in South Carolina through projects with the South Carolina Department of Commerce. These investments are linked to commitments by the companies to create over 20,000 new manufacturing jobs in the state. A significant driving force in the manufacturing employment growth in South Carolina since the end of the recession is the capital investment made by new and expanding manufacturers in the state. Of the \$16.36 billion in capital invested in South Carolina between 2006 and August, 2011 represented in Figure 5, there is a near even split between investments made by expanding firms in South Carolina (\$8.21 billion) and firms new

to the state making their initial investment (\$8.15 billion). Approximately 56 percent of this investment was made by US-based firms and the remaining 44 percent by international firms. Among international firms investing in manufacturing plants in South Carolina over the last five years, German firms lead with \$3.4 billion invested, followed by France with \$1.1 billion and Japan with \$525 million.

Figure 6 shows the total manufacturing capital investment by county, for projects facilitated by the South Carolina Department of Commerce. The metropolitan areas around Greenville, Charleston, Richland and Florence Counties have attracted the most investment, with the upstate and lowcountry leading over the last five years. Spartanburg, Anderson, Charleston and Laurens Counties have all attracted over \$1 billion in capital investment from manufacturing firms, between January, 2006 and August, 2011.

Figure 5: Cumulative Capital Investment from New and Expanding Manufacturing Firms in South Carolina, January 2006 to August 2011

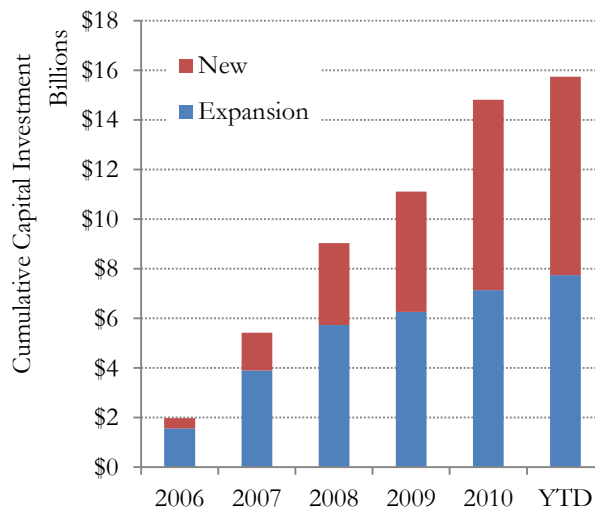
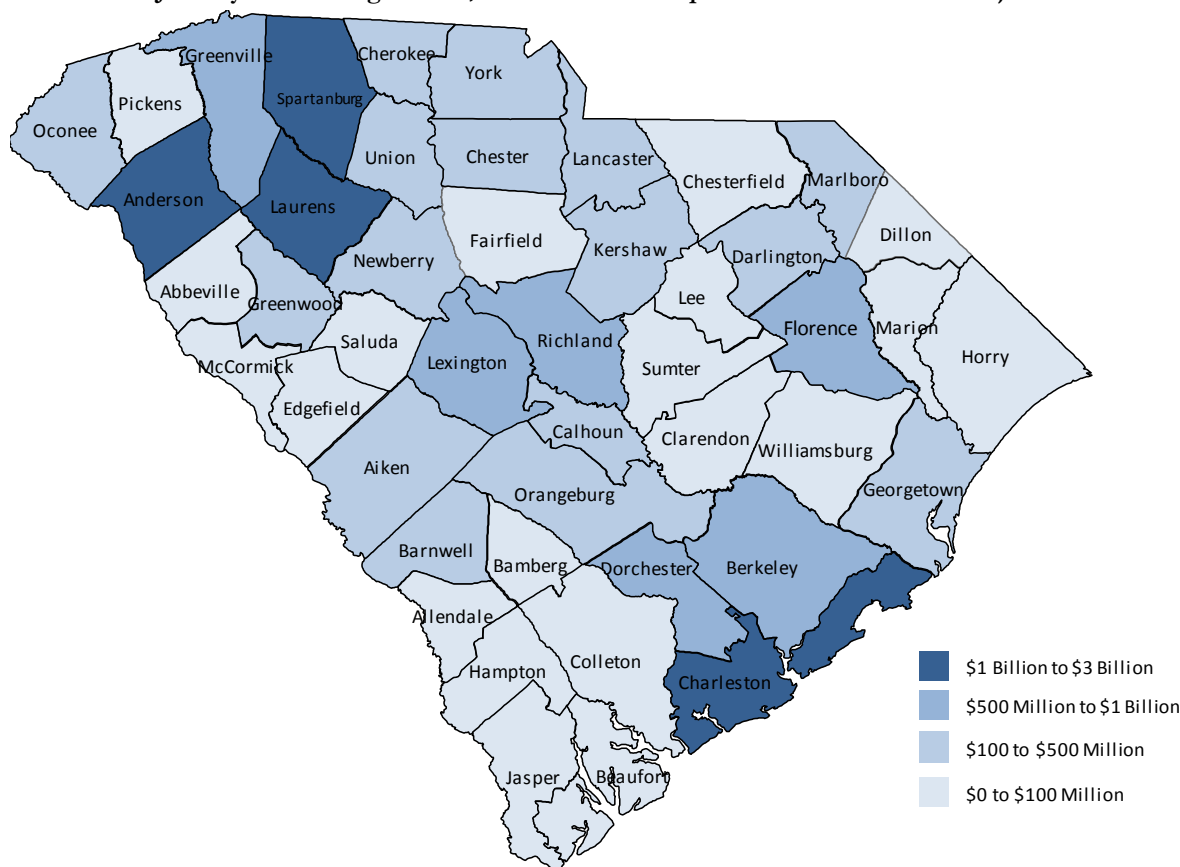


Figure 6: Capital Investment in Manufacturing Plants by South Carolina County January 2006 to August 2011, South Carolina Department of Commerce Projects



Source: South Carolina Department of Commerce Records, September 2011

Employment Opportunities in Manufacturing Industries

During the month of August, 2011, approximately 1,500 job postings were open in the manufacturing sector statewide. Among the top fifteen companies listing the most jobs in the manufacturing sector, eleven were recently involved with capital investment projects with the South Carolina Department of Commerce over the last five years. Several of these projects were announced as recently as spring of 2011 and a few before 2009. The median project announcement date for the companies with the most active job listings as of August 2011 is the spring of 2009. Considering the time required for the construction of new infrastructure and the plants, the time delay between project announcement and hiring is expected. Additionally, many of the companies with current openings in August 2011 also had openings in previous months; the current employment demand statistics simply reveal that industrial recruitment efforts create job opportunities several years after the initial announcements. One caveat of online job posting data as an indicator of employment demand is that one posting oftentimes represents several vacancies, so the 1,500 manufacturing postings in August actually represents many more open positions. Industrial recruitment efforts also create many jobs prior to the opening of new or expanding manufacturing facilities, through construction companies building the plant and other industries that facilitate project financing and other aspects of the project..

Table 2: Manufacturing Firms with the Most Online Job Postings, August 2011

The Boeing Company
Michelin North America
GE Energy
Georgia-Pacific
The Shaw Group
L-3 Communications
Lockheed Martin
Navistar
Sonoco
BAE Systems
Eaton Corporation
Coca-Cola Bottling Company
Jacobs
ALCOA
Schaeffler Group

Source: Wanted Analytics, Sept. 2011

Manufacturing Exports and Output

Despite declining manufacturing employment between 2000 and 2010, manufacturing economic output and exports have soared thanks to a more productive workforce, more efficient capital, plant automation and the evolving industrial composition of the state from labor-intensive sectors like textile manufacturing to capital-intensive sectors such as machinery and chemicals manufacturing. Economic output from manufacturing, as measured by its contribution to state GDP, has increased from \$23 billion in 2000 to \$27 billion in 2010, but has fallen as a share of the overall economy, from 20.3 percent in 2000 to 16.4 percent in 2010.

According to the US Department of Commerce, International Trade Administration, international exports of manufactured products from South Carolina have increased even more dramatically, from \$8.3 billion in value in 2000 to \$19.7 billion in 2010; an increase of 135 percent. Manufactured products account for nearly 97 percent of all goods exported from the state. The value of durable goods exports increased 116 percent between 2000 and 2010, to \$12.6 billion, while the value of non-durable exports increased 80 percent over the same period to \$7.1 billion.

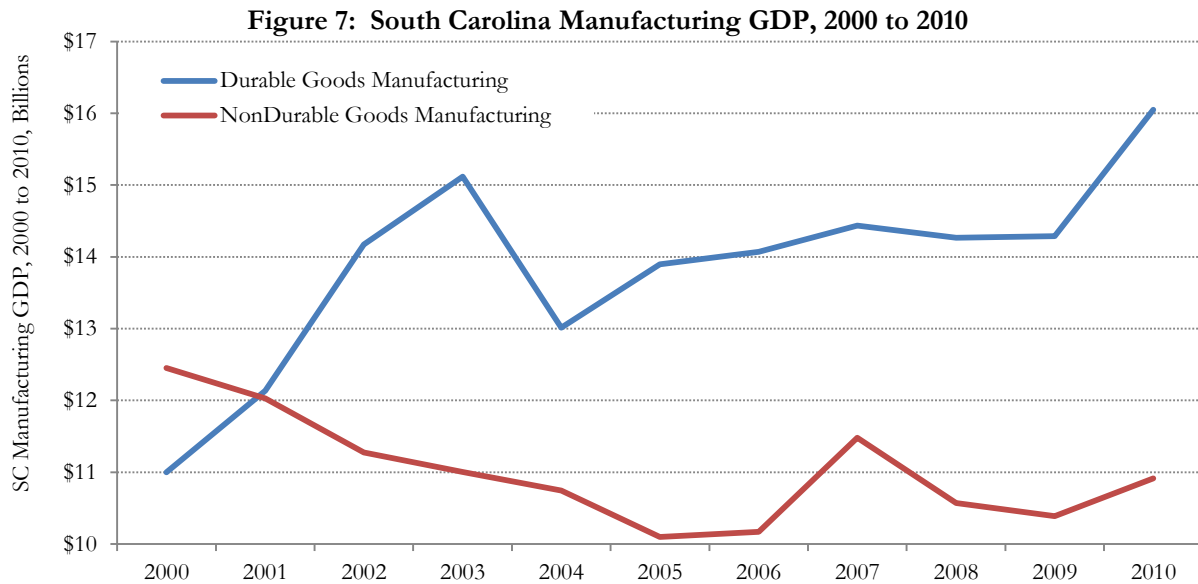


Table 3 below shows the composition of South Carolina's manufacturing output and the relative growth of each component. Like the trends in employment, economic output in manufacturing has steadily increased in the durable goods sectors of machinery and transportation equipment manufacturing while non-durables such as textiles and chemicals have declined.

Table 3: Composition of South Carolina's Manufacturing Output by Sector

Manufacturing Sector	GDP Component Millions of Dollars, 2009	Percent of Total SC Manufacturing GDP, 2009	Change in Component GDP, 2000 to 2009
All Manufacturing	\$24,679	100%	5.2%
Durable Goods	\$14,289	58%	29.9%
Wood Products	\$472	2%	1.1%
Nonmetallic Minerals Products	\$651	3%	-16.6%
Primary Metal Products	\$775	3%	4.3%
Fabricated Metal Products	\$2,396	10%	12.3%
Machinery	\$2,754	11%	8.2%
Computer and Electronic Products	\$463	2%	-2.5%
Electrical Equipment	\$2,086	8%	85.1%
Motor Vehicles and Parts	\$2,477	10%	41.6%
Other Transportation Equipment	\$731	3%	111.9%
Furniture and Related Products	\$260	1%	5.3%
Miscellaneous Durables	\$1,225	5%	217.4%
Non-Durable Goods	\$10,389	42%	-16.6%
Food, Beverage and Tobacco	\$1,392	6%	47.1%
Textiles	\$1,032	4%	-69.8%
Apparel and Leather	\$80	0%	-72.0%
Paper	\$2,747	11%	3.8%
Printing and Related Activities	\$224	1%	-43.1%
Petroleum and Coal Products	\$125	1%	155.1%
Chemicals	\$2,551	10%	38.6%
Plastics and Rubber Products	\$2,238	9%	-22.1%

Source: US Department of Commerce, Bureau of Economic Analysis, September 2011

Manufacturing Outlook

The future is bright for manufacturing in South Carolina. In the near term, consistent gains in manufacturing employment post-recession, increasing wages in manufacturing jobs and available employment positions posted by manufacturing firms throughout the state all point to a relatively healthy sector in South Carolina. The Federal Reserve Bank of Richmond maintains a regional survey of business activity, which assesses manufacturing activity in the region, including Maryland, West Virginia, Virginia, North and South Carolina. The manufacturing activity survey showed positive figures for nine of the last twelve months, indicating a positive trend compared to the overwhelmingly negative indicators of new orders and shipments reported during the recession. The last few months have shown weakness in the index, with values slightly below zero on the -100 to 100 scale; however, the long-term trend still appears to be positive. Another indicator of manufacturing activity is the Institute of Supply Management's Purchasing Manager's Index. Although this metric reports on a national level, it has indicated positive economic growth in the manufacturing sector for 25 consecutive months as of August 2011.

In the years to come, the substantial capital investments made today by the likes of Boeing, Bridgestone and Michelin, General Electric and Caterpillar will all bolster manufacturing employment, output and exports in the durable goods sectors. For some perspective on the potential impact of an aerospace cluster in South Carolina, the airplane exports from the state of Washington approached \$17 billion in 2010, eclipsing South Carolina's entire durable goods sector. While Boeing's manufacture of the 787 Dreamliner will only be one of many products the company produces in Washington, the company's presence has the potential to substantially alter the state's economic future. Plastic and rubber products made up 9 percent of South Carolina's manufacturing output in 2010. Expansions by Michelin and Bridgestone's new facility in Aiken County will boost output in the sector beyond \$3 billion in the near future. As domestic automotive demand recovers and worldwide demand increases, the state's automotive sector could also exceed \$3 billion in output within the decade. Likewise, significant investments in certain non-durable goods industries, such as First Quality Tissue's \$1 billion investment in Anderson County and smaller investments in certain chemical and bio-pharmaceutical sectors point to potential economic and employment growth as well.